BJHS, 1999, **32**, 47–67

Domesticating modernity: the Electrical Association for Women, 1924–86

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For over half a century, from 1924 to 1986, the Electrical Association for Women (EAW) worked to modernize the British home by bringing the blessings of labour-saving appliances to the aid of British women. Adopting a strategy of facilitation, the EAW sought, on the one hand, to educate women about electricity and its advantages in the home, encourage them to demand greater access to that electricity and keep them abreast of new developments in appliances and the infrastructure (from a national grid to sufficient outlets) necessary for enjoying them. On the other hand, the organization sought to discover the real needs and desires of the women themselves, and to bring this forcibly to the attention of the electrical industry in Great Britain; to make the 'women's point of view', as it was called, a factor in the production, distribution and application of electricity in the home.[1]

Although the very masculine electrical industry was a decisive part of both the EAW's context, and of its financial and advisory structure, the group proudly insisted that it was a women's organization in which women addressed other women about women's concerns and well-being. In its early years, the excitement of women coming together in a modern cause was palpable, but as the leadership aged and electricity turned from modern vision to commonplace reality, the almost religious zeal and pace of activities began to falter. A late-hour attempt to highlight nuclear power plants as evidence of a renewed and equally exciting modern moment fell short, and in 1986 the EAW quietly dissolved itself, the casualty of large social changes, some of which it had proudly helped to bring about.

In one important sense, the EAW was a part of that inter-war call to women to come 'back to home and duty', as historian Deidre Beddoe has termed it. It exemplified both the splintering of the women's movement into special interest groups, and a primary focus on the married woman in her home rather than in a job.[2] At the same time, it also reflected notions of companionate marriage and the involvement of men, or at least men's technological advantages, in the care and maintenance of the home. Active participation

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I especially want to thank my colleague Angela Woollacott for her many insights and improvements of this paper. Lenore Symons, Archivist of the Institution of Electrical Engineers, London, and her colleagues were of inestimable help in providing materials and discussing their meanings.

1 L. Symons, 'The Electrical Association for Women, 1924–1986', *Institution of Electrical Engineers Proceedings* (1993), **140**, 215–20, is a convenient introduction to the subject.

2 Deidre Beddoe, *Back to Home and Duty: Women Between the Wars, 1918–1939*, London, 1989.

in the work of the EAW was also in some ways the modern analogue to those philanthropic visitations on the poor which so engaged Victorian women in England.[3]

It may be that, finally, the EAW is best seen as an expression of what Alison Light has called 'conservative modernity': it was a period when women and the home were placed at the centre of British national life, as well as a time which marked 'for many women their entry into modernity, a modernity which was felt and lived in the most interior and private of places'.[4] The women of the EAW, middle class and convinced of the progressive nature of their work, accepted their social role of domesticity, but strove to transform that role through modern technology. A history of their efforts can better help us understand that 'buoyant sense of excitement and release' that Light associates with the 'modernisation of women's lives, the realignment of public and private behaviours and values'.[5]

FOUNDATIONS

The germ of the EAW was contained in a paper which Mrs Mabel L. Matthews, in 1923 and 1924, tried vainly to present before the exclusively male Institution of Electrical Engineers (IEE), a group in which she was then seeking an associate membership. The British Electrical Development Association declined to take up her suggestion for the establishment of some sort of women's organization dedicated to electrical matters.[6] Matthews then turned to the Women's Engineering Society, of which she was already a member, and that group finally gave her the enthusiastic response she sought.[7]

The Women's Engineering Society (WES) had been formed only five years before, in January 1919, in an attempt to speak for, protect and advance the interests of those women who faced dismissal from engineering firms and positions at the end of the First World War. Its dynamic and effective secretary, Caroline Haslett, made the new electrical association her special project and even over the hesitations of the redoubtable Lady Parsons, founder, patron and financial support of the society, pushed it through to establishment. On 2 June 1924, Matthews' paper, 'On a scheme for popularizing the domestic use of electricity', was handed over to the Special Purposes Committee of the WES, to which she was appointed a member. Later in the month 'representative people outside the organisation' were brought into the discussion, and in September the first meeting of the Women's Electrical Committee (Provisional) was held. Draft rules were

3 On both these issues see Jane Lewis (ed.), *Labour and Love: Women's Experience of Home and Family, 1850–1940,* Oxford, 1986, 1–2, 10.

4 Alison Light, *Forever England: Feminity, Literature and Conservatism Between the Wars*, London, 1991, 10.

5 Light, op. cit. (4); 9–10.

6 Peggy Scott, *An Electrical Adventure*, London, 1934, 1.

7 For Matthews' ideas, see Mabel L. Matthews, 'The development of women's interest in the domestic uses of electricity', *Woman Engineer* (1924), **2**, 5–8. For more on the WES see Carroll Pursell, '"Am I a Lady or an Engineer?": the origins of the Women's Engineering Society in Britain, 1918–1940', *Technology and Culture* (1993), **34**, 78–97.

drawn up in October, and it was decided to launch the new organization at a meeting in Lady Parsons' drawing room on 12 November.[8]

Haslett had somehow already convinced the once-reluctant British Electrical Development Association (EDA) to support the new women's association, and Mr J. W. Beauchamp, the director of that group, attended the inaugural meeting at Lady Parsons' and publicly 'promised the practical support of his organisation'. That practical support took the initial form of a grant of £25, and over the years the EDA remained the leading source of funds for the group, a support which made the EAW seem something like the ladies' auxiliary of the electrical industry.[9] Other men present at the inaugural meeting included Sir Charles Parsons, F. S. Button, a member of the Industrial Court, Llewelyn B. Atkinson, director of the Cable Makers' Association, L. L. Robinson, the Borough Electrical Engineer of Hackney, T. Clarkson of the Institution of Automobile Engineers and the editors of several technical journals.[10]

Among the women gathered at Lady Parsons' were representatives of the Women's Co-operative Guild and the Girl Guides' Association, the secretary of the Incorporated Electrical Association and individuals active in the fields of lighting, electrical engineering and domestic science. Caroline Haslett was there, of course, and not surprisingly she was made director at the first meeting of the Association's Council in December. The Council itself included three men, one of whom was Beauchamp, but also twenty-one women, twice as many of whom were single as were married.[11] Some of the women were experienced public figures, like Mrs S. E. Hammer, Mayoress of Hackney and the first woman to chair the Hackney Electricity Committee and first female Alderman of the Hackney City Council. Others were connected to the business and professional world, like Miss B. J. Lanfear, the first woman to be secretary of the Incorporated Municipal Electrical Association. But since men produced the electricity, distributed it, invented the appliances to put it to work and controlled all the agencies, public and private, that dealt with it, the EAW could hardly avoid cooperating with them, even in ways which threatened to compromise their independence as an organization.

Nevertheless the Association saw itself as a 'Woman's Movement', making 'women free in a way ... political enfranchisement could never free them', taking information 'locked up in the minds of engineers and [putting it] ... in simple form for women to understand'.[12] A London newspaper, reporting on a visit by the EAW to the 'Magnetic Electric Home at Magnet House, Kingsway', expressed the opinion that 'what makes this organisation particularly to be commended is that, while perfectly able to grapple with other forms of

8 Council Meeting, 2 June 1924, WES Minute Book No. 2, WES papers, Institution of Electrical Engineers Archive, London (hereafter IEE Archives). See also Meeting of the Special Purposes Committee, 20 June 1924, and meetings of the Women's Electrical Committee (Provisional) 19 September and 14 October 1924, in Domestic Labour-Saving Competition Sub-Committee, Minute Book, WES papers, IEE Archives.

9 Meetings of 16 October, 12 November and 16 December 1924, EAW Council and Executive Committee, Minute Book I (1924–34), EAW papers, IEE Archives.

10 Wilfried L. Randell, *Electricity and Woman: Twenty-One Years of Progress*, London, *c.* 1945, 21.

11 Randell, op. cit. (10), 21; Minutes of First Meeting of Council, 16 December 1924, EAW Council and Executive Committee, Minute Book I (1924–34), IEE Archives.

12 Scott, op. cit. (6), 1, 4.

engineering and more powerful machinery, it is not too highbrow to devote time and attention to domestic electricity which can, after all, make such a difference to women's work in the home and chances of freedom for outside activities'.[13] Speaking of Caroline Haslett in later years, one member insisted that 'the E.A.W. has always been for her a Woman's Organisation; that it also helps the electrical industry is a happy coincidence'.[14]

That industry was going through a period of fundamental change in Great Britain during the 1920s. Thomas Edison had introduced his system of electrical generation to England at the 1882 electrical exhibition held at the Crystal Palace, and in April of that year opened his Holborn Viaduct central station in London. The Electric Supply Act of 1882, however, favoured efforts of local authorities over private enterprises and in part because the former often were already operating competing gas works, the availability of electric power spread only slowly. The number of small central stations, using non-uniform and often incompatible systems, grew from twenty-six in 1888 to fifty-four in 1891, of which seventeen (run by seven different supply companies) were located in London. Most British towns of 100,000 population had at least one central station by 1903 although, not surprisingly, small towns, villages and rural areas were largely unserved.[15]

During the First World War, British electrical production had increased over 100 per cent, mostly through new efficiencies but also with a 39 per cent increase in generating capacity. In 1919 legislation attempted to encourage cooperation and coordination between the '642 undertakings (some AC, some DC, some both) [which] supplied electricity at seven different frequencies and forty-four different voltages'. In the face of a growing belief that British industrial recovery after the First World War depended upon a vigorous exploitation of the modern and progressive power of electricity, the Conservative-appointed Weir Committee reported in 1925 that a national grid should be constructed, and that a state-financed Central Electricity Board should buy and distribute power from local companies.

The following year the Electrical (Supply) Act of 1926 provided for the linking of regional grids into a nationwide network that finally went into full operation in 1935. As late as 1929 Britain produced less electricity than Canada, France, Germany, Japan or Italy, and only a tenth as much as the United States. During the next six years, however, that total increased by 70 per cent and employment in the British electrical engineering industry went up to 90 per cent. The most publicly visible signs of this modern technology were the 26,265 giant pylons, 70 to 80 feet in height, that marched across heath and moor, farmland and downs, brought into being by a central authority with the power and will to erode local amenities and ignore local objections in the name of progress.[16]

The nature of the electrical supply profoundly affected the extent to which it was used in the household during these same years. In 1919 only 6 per cent of British homes were

13 *British Australian and New Zealander*, 4 June 1925, 14.

14 Scott, op. cit. (6), pp. v, 1, 4, 12. Haslett made the EAW her main work and was the dominant force in the organization until ill health forced her retirement in 1956 (she died the next year). Mary George became director in 1956, Ann McMullan in 1976, and Norah Riddington took over just months before the Association was finally dissolved.

15 Colin Chant (ed.), *Science, Technology and Everyday Life, 1870–1950*, London, 1989, 75, 78.

16 Chant, op. cit. (15), 91–2, 94.

supplied with electricity and the next year only 8 per cent of electricity sales were made to domestic consumers.[17] The small and chaotic nature of the electrical supply was one reason: householders hesitated to invest in appliances using the one of forty-four different voltages appropriate for their home when it probably could not be used in another house if they moved. Before giving an electrical appliance as a wedding present a purchaser would have to check the appropriate voltage of the newly-weds' home. At the same time, coal and gas were available and often attractive competitors, especially in terms of price. Except perhaps for lighting, electricity was not always the superior form of energy.

Responding to, and hoping to help shape this developing industry, the EAW began in 1925, the year of the Weir Committee report, to carve out for itself an important niche in the social landscape of electricity. All members of the WES were made members of the new EAW as well, and initially the Association seemed as if it might take a more technical direction. Llewelyn Atkinson, a founder member who was also director of the Cable Makers' Association, later said 'I think we were moved at that [initial] meeting more by the idea of women coming into the engineering and technical side of electricity; we saw the possibility of bringing women in to do installation and the wiring. What has since become the important function of the Electrical Association for Women was scarcely noticed. It was Miss Haslett who caught the idea of the domestic women's need and developed it.'[18]

Haslett in fact ran both the EAW and the WES in the early years, and made certain that the two organizations supported each other. The organizations shared members, office space and staff, feminist goals and practices, and sometimes even budgets, in the sense that Haslett's salary (when she was paid at all) might come from one or the other. Like the WES, the EAW made a conscious effort to employ women professionals: Miss Llwelyn Davies was made legal adviser to the organization, the cover design for their journal was done by Miss Carmen Dillon, Miss M. E. Moore was retained as auditor of the Association, and 'a woman advertisement manager' for the journal was planned for.[19]

By February 1925 Beauchamp had promised a grant of £100 from the EDA with an additional one shilling for each of the first one thousand new members enrolled by the end of the year. Margaret Partridge, an electrical engineer and contractor, and one of Haslett's closest friends, had already given a public lecture on behalf of the EAW, which it was to publish, and four more were being planned. Requests for speakers were pouring in and already it was foreseen that a journal should be initiated soon, to be produced by Haslett and Partridge.[20] The first issue of the *Electrical Age for Women* appeared in June 1926.

The EAW considered itself, first and foremost, an educational effort: educating housewives about the characteristics, virtues and possibilities of electrical housekeeping; educating young women for careers as appliance demonstrators, domestic science teachers or electrical housewifery; educating the industry about the needs and desires of domestic

17 Chant, op. cit. (15), 94–5.

18 Scott, op. cit. (6), 4–5.

19 EAW papers, Minutes of Fourth Meeting of Executive Committee, 27 May 1925, Minutes of Annual General Meeting, 4 June 1926, and Minutes of Finance Committee, 20 July 1926, Minute Book 1 (1924–34) IEE Archives.

20 EAW papers, Minutes of Executive Committee, 26 February 1925, EAW Council and Executive Committee, Minute Book 1 (1924–34), IEE Archives.

consumers. To carry out these missions, in addition to their quarterly magazine, the EAW established branches, set up training courses leading to certification and conducted surveys of the needs of members and campaigns to highlight particular problems or opportunities.

The setting up of branches came early, and paralleled the structure of the Women's Institutes, which had been founded ten years before.[21] In November 1925 Haslett announced the formation of a Glasgow and District Branch with forty-one members, and by January 1926 the inaugurations of branches at Birmingham and Manchester 'were in hand' while others were already being planned in Cardiff, Newcastle and Hastings.[22] The establishment of branches advanced quickly: some eighty were in place by the end of the 1930s and by 1981 there were about two hundred.[23] Often, especially in the early years, the leaders of the local branches were the wives of electrical engineers who served as managers, or in some other capacity with a local electricity supply undertaking.[24] The honorary secretary of the Birmingham and Midland Branch in 1926, for example, was married to Walter Lawson, a member of the IEE and a past chairman of the South Midlands Centre of the IEE.[25] It seems reasonable to assume that power and influence flowed both ways in such relationships: the EAW gained access to male networks of influence in the industry, but the local undertakings also had an intimate entrée into Association leadership circles. The various campaigns launched by the Association, such as that surveying the need for electrical outlets, were organized through the branches, which also raised money through whist parties and other social events. Regular meetings were held to which guest speakers, often from industry, were invited, and field trips to sites of electrical interest were arranged. The Glasgow Branch reported in the autumn of 1926, for example, that during the coming season it had planned fifteen meetings 'which included two visits to Power stations, Metropolitan-Vickers Showrooms, a coffee-factory' and an all-electric bakery.[26]

The early notion of encouraging women to take positions in the electrical industry was also pursued. In 1927 Caroline Haslett and her good friend, the electrical engineer Margaret Partridge, organized Electrical Enterprise, Inc., as a company to bring electrical service to rural areas. Taking advantage of the Electrical (Supply) Act of 1926, their notion was either to buy and distribute electricity off the grid, or to construct small generating stations for that purpose. Their aims were not only to introduce 'to rural homes the benefits to be derived from these modern services', but also to 'provide openings for women in the business of electricity supply, and by that means to encourage women to enter a calling which is most important from the point of view of public service, and is essentially one of equal interest to men and women'.[27]

The following year Mona Willis, 'who is apprenticed to Miss Partridge' and 'is now getting some experience in running a showroom in a Country Town', described her duties.

21 A brief but useful sketch of the EAW is found in Chant, op. cit. (15), 97–100.

22 EAW papers, Minutes of Seventh Meeting of Executive Committee, 26 November 1925, and Minutes of Eighth Meeting of Executive Committee, 28 January 1926, Minute Book 1 (1924–34), IEE Archives.

23 Randell, op. cit. (10), 59, and *Electrical Living* (1981), 24. Eventually, other groups, though not formal branches, were organized in Australia, the Netherlands and elsewhere around the world.

24 Randell, op. cit. (10), 58.

25 *Electrical Age for Women* (1926), **1**, 54–5.

26 EAW papers, Minute of Council, 8 October 1926, Minute Book 1 (1924–34), IEE Archives.

27 *Woman Engineer* (1927), **2**, 248, and *Electrical Age for Women* (1927), **1**, 244.

As was common, the local electrical supply company operated a showroom from which wiring and lightbulbs were distributed to new customers, but that also displayed (and sold or rented) the latest appliances as well. In addition to managing the inventory and explaining the appliances, Willis also periodically took round the electricity bills and collected payments.[28]

Under the heading 'A Possible Career for Girl Guides', a 1930 report announced that 130 young women, 'many of whom had been sent by their employers and their expenses paid', had attended the 'first practical course on Home Electrification for Women in Electrical Showrooms, Women Architects and Decorators'. The lectures had been arranged by the EDA and the Electric Lamp Manufacturers' Association in conjunction with the EAW. Much time was spent on artistic lighting to produce pleasing effects, but 'the woman who is keen on electrical development' could also specialize in cooking demonstrations using electric cookers, and even 'find her niche in the Electrical Industry by understanding typical domestic wiring installations and by being able to execute them'.[29] On another occasion Mr W. F. T. Pinkney, MIEE, predicted work for women not only 'as Attendants in Electrical Showrooms, as Demonstrators and Lecturers on Cooking and Domestic Electrical Appliances', but also 'as Supervisors in Factory Canteens, on Large Ships, and in the Decorative Aspects of Illumination and in Publicity'. He deplored the fact that 'many women were just "drifting" into the Industry', but praised efforts, such as that of the London Polytechnics, 'to institute a suitable training in "Electrical Housecraft"'.[30]

THE MODERN ELECTRICAL WOMAN

During their first year of operations the EAW had already begun to address this need for better training in matters electrical. 'As a result of a number of requests from girls working in London', according to minutes for 1 October 1925, 'the Association hoped to arrange, in co-operation with Mr Beauchamp, a series of Lectures of a practical nature to be given in the evenings'. At the following meeting of the Executive Committee they discussed providing 'simple instruction' in electricity and electrical apparatus to classes in girls' schools. Three months later they could report that 'a course of six evening lectures had been arranged for those members engaged as demonstrators and domestic science mistresses. An average of 50 members attended these Lectures which were given by experts'.[31]

In 1927 a course in Electrical Domestic Science was introduced at Chelsea Polytechnic, in London, another was soon established at Battersea Polytechnic, and King's College of Household and Social Science also cooperated. A summer school for teachers was begun in 1930, and a year later the EAW instituted a Diploma for Demonstrators and Saleswomen who successfully completed a course in 'Electrical Housecraft' and passed an examination. Soon a Diploma in Electrical Housecraft for Teachers was created and in 1936 a Home

28 Mona Willis, 'Running a country showroom', *Electrical Age for Women* (1928), **1**, 373.

29 Hilda L. Dover, 'Saleswomen in electrical showrooms', *Electrical Age for Women* (1930), **1**, 635.

30 *Electrical Age for Women* (1931), **2**, 88.

31 EAW papers, Minutes of Executive Committee, 1 October 1925, 26 November 1925, and Minutes of Fourth Meeting of Council, 26 February 1926, Minute Book 1 (1924–34), IEE Archives.

Workers' Certificate with two tracks, one for housewives and another for students.[32] All of these schemes were attempts to draw women and girls into an interest in electricity, give them basic information about its use, give them marketable job skills in an expanding industry and raise both the competence and prestige of women in the electrical field.

When, in 1927, the EAW moved into its new headquarters in the appropriate and picturesque former headquarters of the Kensington & Knightsbridge Electric Lighting Co., one room was specially wired to serve as a 'Demonstration Kitchen which it was hoped would be equipped by the Electrical Industry'. A club room was also fitted out for the use of members.[33] Wherever the EAW moved its headquarters – to the marvellously art deco rooms on Regent Street in 1933, to Grosvenor Place, 1946–55, and especially to 25 Foubert's Place just off Carnaby Street, 1955–86, the demonstration kitchen/laundry was always an important educational feature of the premises.

Another outreach effort was made with the decision to sponsor an electrical flat at the Bachelor Girls' Exhibition held in London during the winter of 1930–31. As Lady Belhaven and Stenton, president of the Glasgow branch had underlined in 1926, 'the aim of the Association held such a strong appeal for women of all types – from the purely domestic woman ... right on through all the types to the modern bachelor woman who has a tiny flat, and in her endeavour to pursue her business life must also live a reasonable domestic one'.[34] As early as October 1926, the EAW's magazine printed a letter from a woman who claimed to be 'seething with discontent over the fact that I have tried to aspire to an electrically-worked flat on a small scale that an ordinary working woman, like myself, could afford, and – have failed'.[35] Three months later, however, the magazine carried the news that four 'London Electrical Flats for Bachelor Women' would soon be ready for occupancy in Kensington, the work of an unnamed EAW member who had had them converted.[36] An advertisement in the same issue, no doubt referring to the same units, called them 'Self-Contained Flats for Professional Women. Containing Bedroom, Sitting-room, Fitted Bathroom, Kitchen with Electric Cooker, Power and Light Plugs, Telephone'.[37] Three years later a story featured the work of Mrs L. A. Willson, the then-vice president of the EAW and a former president of the WES. She had begun her career as 'the pioneer Woman Builder' by constructing sixty-four working-class houses in Halifax, in 1925, and was now converting a mansion at Walton-on-Thames into two six-room and seventeen two-room flats, all wired for electricity and equipped with electric cookers.[38] Later that same year 'Bachelor Girls' Electric Flats at Highgate' were described.[39]

When the Bachelor Girls' Exhibition was announced for London in 1930, the EAW decided to sponsor an electrical flat on its own, and the EDA quickly offered to bear the

32 Randell, op. cit. (10), 41, 48, 50.

33 EAW papers, Minutes of Executive Committee, 13 September 1927, Minute Book 1 (1924–34), IEE Archives.

34 *Electrical Age for Women* (1926), **1**, 8.

35 *Electrical Age for Women* (1926), **1**, 67.

36 *Electrical Age for Women* (1927), **1**, 119.

37 *Electrical Age for Women* (1927), **1**, 111.

38 *Electrical Age for Women* (1930), **1**, 629.

39 *Electrical Age for Women* (1930), **2**, 57–8.

expense. Miss Edna Moseley, ARIBA, an architect and member of the EAW, designed the flat and various firms did the wiring and lent furniture and appliances.[40] Containing a living room, bedroom, bathroom, kitchen, dining recess, vestibule and verandah, it was reported to be extremely popular with exhibition visitors, and 'proved conclusively that beauty, utility and ease of operation are outstanding and inseparable features of the Modern Electric Home'.[41] Herself the quintessentially modern woman, the Bachelor Girl continued, along with the 'housewife', to be an object of the Association's attention.[42]

For the better-off housewife who already had a taste for modernism, as well as modernity, there was the EAW House in Bristol. In that city, leaders of the Association caused to have built an indisputably modern home, its modernity marked not only by its all-electric fittings but by its design and very conception. The plans were drawn up by Adrian E. Powell, ARIBA. He 'is young', the Association revealed, 'and favours modern building design of the more practical sort'.[43] The contractors, who were building the house on speculation, were Messrs Simmonds, father and son. It was reported that 'the elder Mr Simmonds has been building houses for half a century, and yet he can see the need for modern planning', and both were said to be 'gentlemen with a modern outlook, and have fully realised the valuable part practical women can play in the designing of a house'.[44]

The design, with its flat roof and attached garage (itself a very modern necessity), built-in art deco furniture and numerous appliances, its careful planning and input from women, complemented an abundant and convenient supply of electricity. All combined to make this a truly 'modern' house. The younger Mr Simmonds, it was said, 'is never afraid that his modern house will not be appreciated by modern people', those, in the words of the EAW, who were 'of moderate income, [and] who prefer to live in houses of better taste than the average villa'.[45] A total of six such houses were originally planned, but only this one was built. Another, in London, was abandoned in 1938, even though the Association had already received permission to design it with a flat roof, when it was discovered that someone, presumably the contractor, was intending to make it 'only partly electric'.[46]

Most of the members of the EAW were either wealthy or at least comfortably middle class, and the early emphasis of the organization was on spreading the benefits of electrical living among their own. Less privileged rural and working-class women were never excluded in principle, however, and in 1934 at the general meeting of the Association it was passed unanimously that 'the time has now come when Electricity should be available at

40 EAW papers, Minutes of Council, 14 November 1930, Minute Book 1 (1924–34), IEE Archives.

41 *Electrical Age for Women* (1931), **2**, 106–8.

42 A one-room living area, 'designed by a young woman for other young women', was described in *Electrical Age for Women* (1959), **6**, 784–6.

43 Dorothy Newman, 'The EAW House, Bristol', *Electrical Age for Women* (1935), **2**, 920.

44 Newman, op. cit. (43), and 'The EAW all-electric house building at Bristol', *Electrical Age for Women* (1935), **2**, 888.

45 Newman, op. cit. (43), and *The Electrical Association for Women Presents the EAW All-Electric House*, London, *c.* 1935, 2.

46 EAW papers, Minutes of Executive Committee, 17 December 1935 and 15 March 1938, Minute Book 1 (1934–40). The Association was also horrified to discover, after the fact, that even the Bristol house had installed 'non-standard plugs and sockets'. Minutes of Council, 25 November 1935, Minute Book 1 (1934–40), IEE Archives.

an economic rate to the homes of the working people'.[47] Two years before, the Association had made a small scale-model of an electrical working-class kitchen at an exhibition in the Central Hall, Westminster, sponsored by the voluntary Housing Societies of London. The model itself was an accurate depiction of the very small kitchens, with all their installed appliances, provided in some flats of the St Pancras House Improvement Society. A book accompanying the exhibition contained a chapter on 'Electricity for the working class home'.[48]

Although the January 1934 issue of the *Electrical Age for Women* featured a story about a Lancashire weaver and her husband who lived in an electric home ('By gum, but its champion' enthused the husband), the EAW was soon to commission a study which reported that while working-class families used electricity where it was available and affordable, more than half 'are not yet enjoying the amenities of an electricity supply'.[49] Through schemes of assisted wiring and the hire or hire/purchase of appliances, the author expressed the hope that 'in many parts of the country, the needs of the working class people are receiving serious consideration, and... we are moving in the right direction'.[50] Introducing the Labour activist and politician Ellen Wilkinson to its readers before her address to the Association that same year, the *Electrical Age for Women* noted that 'when she was a suffrage worker... [she] believed that the twin keys to women's earthly paradise were the Vote and Electricity; now that the first key has been acquired, Miss Wilkinson is indefatigable in pressing for schemes which will enable the poorer working families to have the benefits of electric help in their homes, and for education which will enable all women to make the best use of the help electricity offers'.[51] Since a number of these women had no doubt themselves been a 'help' at some point in their working lives, to have their own must indeed have seemed a levelling development. As one working-class woman put it in a letter to Haslett, 'We try to be modern if allowed to be and also keep our homes clean'.[52]

Educating the male-dominated electrical industry itself was another major aim of the EAW: bringing the 'women's perspective' to the attention of industry leaders. In 1928 an early one of the Association's many 'campaigns' was begun on the subject of electrical outlets. 'Many homes', it was asserted, 'are being planned, or are in the course of building which will be wired in a manner totally inadequate to the ultimate requirements of their future tenants'.[53] Women whose homes were already wired for electricity frequently found themselves taking out lightbulbs and replacing them with sockets so that they could vacuum the room or make toast. Branches were asked to canvas their members on what they wanted in the way of the number and placement of electrical outlets in their homes.

47 EAW papers, Minutes of First General Meeting of the Incorporated Association, 19 April 1934, Minute Book 1 (1934–40), IEE Archives.

48 Harriett Holmes, 'New homes for old', *Electrical Age for Women* (1932), **2**, 284.

49 Marjorie Hutchinson, 'What the Lancashire woman thinks of electricity in the home', *Electrical Age for Women* (1934), **2**, 600; Elsie E. Edwards, *Report on Electricity in Working Class Homes*, London, 1935, 47.

50 E. E. Edwards, 'Electricity in working-class houses, "At an Economic Rate"', *Electrical Age for Women* (1934), **2**, 749.

51 *Electrical Age for Women* (1934), **2**, 653.

52 Scott, op. cit. (6), 105.

53 Mrs Walter Lawson, 'A home-maker's views on the "Outlet" campaign', *Electrical Age for Women* (1928), **1**, 346. The first campaign had been on the subject of cookers. EAW papers, Minutes of Executive Committee, 11 November 1926, Minute Book 1 (1924–34), IEE Archives.

Results were collated and discussed at headquarters, and the resulting 'Women's National Specification' called for at least thirteen outlets in a home, three of those in the kitchen-scullery installed 'waist-high and sunk in the wall'.[54]

This standard was not without controversy. Early in the campaign the British Engineering Standards Association asked the EAW to appoint a representative to its Sub-Committee on Electrical Accessories. It was discovered, however, that the male 'experts' themselves did not always agree: 'as there seems to be some differences of opinion amongst Engineers themselves', the Executive Committee was told, 'as to whether Earthing [grounding by way of a three-pronged plug] or Insulation would be the better method to ensure safety, the Women's Specification should put forward the need for safety, leaving it to the Electrical Authorities to decide upon the *method*'.[55] Before the specifications were published, proofs of the document were sent to 'eminent Electrical Engineers', and at least one thought it best to 'reduce the number of Outlets considerably'. The EAW nevertheless decided that thirteen outlets was not excessive for a home, and went ahead with publication. Women may have been the experts on the 'home', but engineers were the experts on 'electricity', and they were prepared to defend their professional turf against invasion. Haslett reported to her council that with two exceptions, 'the Electrical Press had been rather critical of our Specification'.[56] At a public meeting one builder stood up and promised to 'install one Power Outlet in the Best Bedroom in all houses he would be building in future, in addition to the Lighting Points'. Chastened by this failed attempt to have women contribute their hard-won knowledge to the process of modernization, Haslett 'suggested that in future it might be advisable, provided the woman's point of view was represented, that a Specification should be drawn up by the Engineers, which would be accepted by Architects and Builders throughout the country'.[57]

Although Haslett was appointed to a government committee to help plan the reconstruction of post-war Britain, the EAW, like other civilian organizations, found its activities severely circumscribed during the Second World War itself. Between the wars the use of electricity had grown significantly in Britain: the percentage of households with electric wiring grew from twelve in 1921 to thirty-two in 1931 and to sixty-five in 1938 on the eve of war. The spread of electricity was even more rapid after the war: in 1951, 86 per cent of households were wired, and ten years later, 96 per cent.[58]

Wired for electricity, of course, could mean electric lights only, and it has been suggested that 'very few households in Britain actually owned electrical appliances, apart from the electric iron, before 1940'.[59] Indeed, because of the lack of a mass market for appliances, until the 1950s their manufacture in the United Kingdom 'tended to be merely a subordinate and largely undifferentiated branch of the electrical machinery industry'.[60]

54 'Electrical "Outlet" campaign', *Electrical Age for Women* (1928), **1**, 383.

55 EAW papers, Minutes of Council, 17 April 1928, and Minutes of Executive Committee, 18 September 1928, Minute Book 1 (1924–34), IEE Archives.

56 EAW papers, Minutes of Council, 15 October 1928, Minute Book 1 (1924–34), IEE Archives.

57 EAW papers, Minutes of Executive Committee, 13 November 1928, Minute Book 1 (1924–34), IEE Archives.

58 T. A. B. Corley, *Domestic Electrical Appliances*, London, 1966, 19.

59 Chant, op. cit. (15), 106.

60 Corley, op. cit. (58), 14.

What appliances were available tended to be acquired by users through some sort of rental or hire-purchase schemes.

It was only in the 1950s that the brave new electrical world envisaged by the EAW came about in Britain, reportedly in part due to the growth in numbers of married women working outside the home, a greater availability of hire-purchase facilities (the government rules governing hire-purchase were changed eight times) and, in 1945, the establishment at last of a uniform national voltage.[61] Problems remained, of course. When the government threatened to raise the taxes on sales of electrical appliances in 1951 it 'emphasised the necessity for further taxation to meet rearmament commitments' and, indeed, taxes were changed six times during the decade.[62] The cords (flexes) for appliances were often sold separately, since socket configurations still varied. As a safety measure fuses were often installed in the plugs themselves, and these came, in 1961, in 13, 10, 5, and 2 amp sizes, 'to meet the particular needs of the circuit to be connected'. When the Leicester Branch of the EAW complained that 'it appeared that all fused plugs sold were fitted with 13 amp fuses', would-be purchasers were advised to 'persevere until they obtained the fuses they required'.[63] By 1969, although the international code for three-wire safety (grounded) cords specified that the live wire be brown, the neutral one blue and the 'earth' (for grounding) green/yellow, the British had officially settled on a cord that had a red live, a black neutral and a green earth.[64] Little wonder that the EAW sold linen tea towels that attempted to depict by diagram and explain appliances and their connections. Nevertheless, by 1963 electric refrigerators were owned by 33 per cent of all British homes, washing machines by 50 per cent and vacuum cleaners by 77 per cent.[65] If rentals were included in these figures, they would presumably be significantly higher.

But with all the widening availability and use of electricity in the British home, the 'all electric' ideal was far from accomplished. The shared assumption that 'we should', as one early member put it in 1930, 'depend almost entirely on Electricity for everything to do with our everyday life in the future', for example, led the Executive Committee of the EAW four years later to the assumption that 'the use of gas in some new Kensington flats seemed due to the non-progressive attitude of the Notting Hill Electric Supply Undertaking'.[66] As late as the Second World War, however, one member of the Executive Committee was reportedly 'most distressed to hear from many early members of this Association that they were not in favour of an all electric house although they were in a position to afford one. Among other disadvantages', she reported that some 'thought that electric fires were inclined to make one sleepy and rather induced one to cough': it made one question

61 Corley, op. cit. (58), 14–15, 18; and Chant, op. cit. (15), 110.

62 EAW papers, Minutes of Executive Committee, 16 May 1951, Minute Book 4 (1951–55), IEE Archives; and Corley, op. cit. (58), 18.

63 EAW papers, Minutes of Advisory Council, 15 November 1961, Minute Book 6 (1961–65), IEE Archives.

64 EAW papers, Minutes of Advisory Council, 7 May 1969, Minute Book 7 (1966–69), IEE Archives.

65 Corley, op. cit. (58), 16. As these figures show, not surprisingly, the percentages were highest for the upper class and lowest for the 'working class poor'. See also Sue Bowden and Avner Offer, 'The technological revolution that never was: gender, class, and the diffusion of household appliances in interwar England', in *The Sex of Things: Gender and Consumption in Historical Perspective* (ed. Victoria de Grazia and Ellen Furlough), Berkeley, 1996, 244–74.

66 EAW papers, Minutes of Fifth Annual General Meeting, 15 May 1930, Minute Book 1 (1924–34), Minutes of Executive Committee, 18 December 1934, Minute Book 1 (1934–40), IEE Archives.

'whether people were really electrically minded', especially when Mr Hoadley, the chairman of the ETA, 'admitted that he preferred one coal fire in the house'.[67] In 1955 it took an emergency meeting of the finance committee to urge the EAW to accept the fact that their proposed new headquarters on Foubert Place had gas heating.[68]

RIVAL SOURCES OF POWER

Part of the reason that electricity had not swept the day for domestic energy was that its competitors had also begun to organize women on their own behalf. In 1936 the Women's Gas Council introduced a new quarterly journal *Fanfare*, designed to keep women 'in touch with the work and pleasures of the modern world'. 'Life is an adventure in this twentieth century of ours – as great an adventure as it was in Elizabethan times when men had new lands to conquer and the new learning swept over Europe.' The present was, it concluded, 'a brave new world'. Headquartered at 1 Grosvenor Place, in Gas Industry House, the organization had been in operation about a year, claimed already to have twenty-four branches in the provinces and was operating its own summer school for demonstrators.[69] In 1948 the name of the magazine was changed to *Commentary*, and in 1951 the name of the organization itself was changed to the Women's Gas Federation. Significantly, it too was having troubles, and rumours of its demise were current.[70]

In 1943 a Women's Advisory Council on Solid Fuel was established with much the same goals as the electrical and gas groups: educating women about fuels (primarily coal) and appliances, informing the industry of women's needs and desires along these lines, striving for efficiency in fuel use and 'the attaining of higher standards of comfort in the home by advice and education in the combined use of fuel and appliance'. Although working mainly out of its headquarters, 'a modern, well-designed Information Centre catering for the passer-by', through afternoon meetings and conferences, four regional sections had been set up by 1956.[71]

The EAW was on several occasions asked to cooperate with the gas and solid fuel women, but always refused anything that might be interpreted as endorsing either fuel.[72] Sometimes propinquity forced action, as in 1957 when plans for a Festival of Women revealed that the spaces reserved by the gas and solid fuel councils were larger than that projected for the EAW, and its area had to be hastily and 'greatly enlarged'.[73] The failure of modernity and progress completely to sweep away alternative fuels remained an embarrassment and a challenge to the Association.

The establishment of a nuclear power industry in the United Kingdom gave the EAW one final chance to capture the high ground of modernity, leaving coal and gas once and

67 EAW papers, Minutes of Executive Committee, 18 February 1943 and 15 April 1943, Minute Book 2 (1941–45), IEE Archives.

68 EAW papers, Minutes of Executive Committee, 18 May 1955, Minute Book 4 (1951–55), IEE Archives.

69 *Fanfare* (1936), **1**, n.p.

70 *Commentary* (1951), **14**, 2.

71 Mary Leigh, 'The housewife, solid fuel and the clean air bill', in Institute of Fuel, *Special Study of Domestic Heating in the United Kingdom*..., London, 1956, 306–7.

72 See for example EAW papers, Minutes of Executive Committee, 17 January 1946, Minute Book 3 (1946–50), and 16 February 1955, Minute Book 4 (1951–55), IEE Archives.

73 EAW papers, Minutes of Executive Committee, 15 May 1957, Minute Book 5 (1956–60), IEE Archives.

for all in the dustbin of history. Under the heading 'Exciting possibilities', readers of the *Electrical Age for Women* were told in 1954 of 'perhaps the most dramatic and reassuring news that science has had to bring us for some time': the announcement by the British government of a planned breeder-reactor, nuclear power plant in the far north of Scotland. The new Calder Hill power station in Cumberland was also described, and readers were told that 'the hope for our industrial and domestic future lies in the generation of power from atomic energy sources'.[74]

The next year the Ministry of Fuel and Power announced a ten-year programme for building nuclear power plants, and the *Electrical Age for Women* hailed it as a 'new industrial revolution, but on a vaster scale than that which characterized the nineteenth century. Then Britain led the world, and now once again she is in the forefront.' With obvious reference to themselves and their readers, the editors rejoiced that 'to men and women who have long believed that electricity was more than a technical servant, it is inspiring to know that "electricity is the channel through which this new source of power must be brought to help our homes and industries", and bring great social changes'.[75] In reporting the starting up of the Calder Hall station on 17 October 1956, the magazine emphasized again that 'the electricity feeding into the Grid is exactly the same' as that coming from any other, more conventional source.[76] For the electrical industry, as the deputy chair of the Electricity Council reported to the EAW, nuclear power plants were the 'shot in the locker' that would keep the industry competitive with newly discovered, cheaper North Sea natural gas.[77] For the Association, however, electricity, at once homely and familiar but also imbued with a mysterious something 'more', beyond mere technical usefulness, was a fit medium for the ushering in of a new age of British supremacy, invoked by the powerful image of the Industrial Revolution.

In 1977 the director of the Association received a briefing on nuclear power plants from the Central Electricity Generating Board and a few months later travelled to the United States to meet Mrs Angelina S. Howard, of the Duke Power Company in North Carolina, her way being paid by the Board, the Electricity Council and the EAW. Howard headed a group of 'women employed in the electricity industry in the United States' whose purpose was to 'educate the public re: nuclear power'. The group, which was sponsored by the Atomic Industrial Forum, Inc., went by the acronym NEW, which stood for 'Nuclear Energy Women'. In reporting on her trip, the director announced that the EAW would soon begin a major campaign entitled, 'Get Into Lane.'[78]

The director took great pains to establish the Association's neutral position on the issue of nuclear energy. While conceding that 'it was, in some people's view, a "political" issue',

74 'Exciting possibilities', *Electrical Age for Women* (1954), **5**, 1013; and Phyllis Thompson, 'Scientific adventure – today and tomorrow', ibid., 1055–6.

75 'Tremendous prospects', *Electrical Age for Women* (1955), **6**, 54. The internal quotation was from the Ministry's White Paper.

76 Phyllis Thompson, 'Calder Hall and after', *Electrical Age for Women* (1957), **6**, 395.

77 EAW papers, Minutes of Advisory Council, 16 November 1966, Minute Book 7 (1966–69), IEE Archives.

78 EAW papers, Minutes of Executive Committee, 14 June 1977 and 5 October 1977, Minute Book 10 (1977–80). Howard was made an honorary member of the EAW and was flown over to address the Association in 1978. Minutes of Executive Committee, 18 January 1978, and Minutes of Council, 3 May 1978, Minute Book 10 (1977–80), IEE Archives.

she insisted that it was not 'a party political issue and EAW would not become involved in party political arguments nor would it encourage any form of militancy. Its aim was to inform its members and the public of the facts and leave individuals to make their own decisions.'[79] In her illustrated talk describing her American visit, however, she was also at pains to point out that although the United States government was supporting research into such diverse power sources as solar, wind, tides, ocean thermal gradients, shale oil and 'even garbage', the 'government knows it cannot afford to give up the technology it already possesses'.[80]

In fact, that belief in the inevitability of a nuclear future betrayed the intended neutrality of the EAW. The very name of the programme – 'Get Into LANE' – was borrowed from the road signs along Britain's motorways, and carried the bald command of state authority. As the director warned readers of the *Electrical Age for Women*, 'the driver who chooses to ignore a motorway "Get Into Lane" sign is likely to find himself heading in the wrong direction'. The EAW 'recognises', she continued, 'the pressing need for this country to "Get Into Lane" by committing itself to a nuclear power programme for the years beyond 2000 AD'. Although 'safety and the social implications are in the forefront of our minds... we shall seek facts free of emotive persuasion to help us in forming our judgements'. While admitting that a mastery of the 'intricacies of various points' was perhaps beyond ordinary people (and by implication, especially women), the director insisted that 'the mature woman has a responsibility both to society as a whole and to her own family in particular to develop as fully as she can her capacity to form balanced judgements based upon sound reasoning'. The EAW would take a 'positive approach', in part, perhaps, because, as she told her readers, 'a future without nuclear power makes no sense at all'.[81]

This rather dour and hectoring tone was relieved on occasion by chirpy reassurances. Mrs E. M. Desbrow, Magazine Secretary of the Llangefni branch, visited the Wylfa nuclear power station in 1978 and noted not only that 'uranium is a naturally occurring metal', but that 'compared with the pollution caused by a coal-burning power station the branch felt that Wylfa Power Station was a very clean place!'[82] At a meeting of the council that May the director 'reminded members that although EAW had strong financial support from the Electricity Supply Industry, they were not part of the Supply Industry and they would hold their own views on nuclear energy when they learned about it, just as they did on all matters concerning the consumer. The EAW programme was for the purpose of learning, it would not be a pro-nuclear or anti-nuclear drive.'[83]

When the results of the study were ready in the spring of 1980, they were careful that it would be typed and lithographed on EAW headed paper since the Association did not

79 EAW papers, Minutes of Executive Council, 5 October 1977, Minute Book 10 (1977–80), IEE Archives.

80 EAW papers, Minutes of Council, 2 November 1977, Minute Book 10 (1977–80), IEE Archives. The Association's magazine, now called the *Electric Living Journal*, eventually published two articles on other ways of producing electricity: 'A place in the sun: the house of the future?' (1982), 4, and 'Power in the wind: a promising source of electrical energy' (1983), 9.

81 Ann McMullan, 'Getting into lane – EAW style', *Electrical Age for Women* (1977), **39**, 2–3.

82 Electrical Association for Women, *Meet the EAW Branches, Spring 1978*, insert in *Electrical Age for Women* (1978), **41**, 14–15.

83 EAW papers, Minutes of Council, 3 May 1978, Minute Book 10 (1977–80), IEE Archives.

want to give the impression that 'LANE' had been published with the help of grants from industry. 'We are anxious', the director wrote, 'that it should be seen as *both* independent and impartial, as in fact it was'. To reinforce their neutrality, all questions were to be referred to 'the authority or voluntary body concerned'. Furthermore, when the report was actually 'launched quietly and it was hoped in the long term, effectively' that summer, the director ruled that the Association would 'not react to any criticism of "LANE" that might be made in the media. Reaction would merely give others opportunities to air their own views in public and promote their own interests'.[84]

It is easy to see what some of that criticism must have been. Sheet six of the report, on 'Radiation – safeguards and safety', was full of such reassuring facts as that 'radiation is a natural part of the world around us', and 'since time began, man has received radiation from three sources', the sun, the earth and 'ourselves'. People in the United Kingdom were told that they received 67.6 per cent of their annual radiation from the 'natural background', but only 0.6 per cent from fallout, 0.45 per cent from occupation exposure and 0.15 per cent from the disposal of radioactive waste.[85] The championing of nuclear power was an attractive cause for the Association: it reinforced the importance of electricity as an energy delivery system and it was mysteriously scientific and therefore powerfully modern and a dramatic mark of 'Progress'.

At the same time nuclear power raised real and persistent concerns about health and safety and threatened to expose the close and increasingly problematic ties between the EAW and the electrical supply industry, which was its major source of funding. In December 1926, when the Association had on hand a total of £2 16s 2d and debts of £150, the EDA pledged £500 outright and up to another £500 based on membership growth. 'While the Electrical Industry would help at the moment to put the Association on a sound financial basis', the finance committee noted, 'it was agreed that as soon as possible the EAW should develop ways and means of becoming self-supporting'.[86] By 1934 funds were coming in from the Electrical Manufacturers' Association, the Cable Makers' Association and the Allied Manufacturers' Association as well as the EDA. After the reforms of the post-Second World War Labour government, the new British Electrical Authority agreed to continue support of the EAW. In 1949 that support amounted to £15,250 and in 1957 the Authority provided £32,100 of the Association's £36,300 budget for that year. By 1975, the EAW was spending £150,366, and admitted that 'by far the largest source of income had been attributable to contributions and donations, almost exclusively from the Electrical Supply Industry'.[87]

Not surprisingly, this close relationship gave colour to the idea that the Association was little more than a mouthpiece for the industry; that the women were saying and doing what the men who controlled the industry wished. Both public and private expressions by the

84 EAW papers, Minutes of National Executive Committee, 18 March 1980, and Minutes of Executive Committee, 16 July 1980, Minute Book 10 (1977–80), IEE Archives.

85 *Get Into 'LANE': A Factual 8-part Programme of Learning About Nuclear Energy and other Energy Sources*, London, 1980, in EAW papers, IEE Archives.

86 EAW papers, Minutes of Finance Committee, 17 December 1926, Minute Book 1 (1924–34), IEE Archives.

87 EAW papers, Minutes of Executive Committee, 13 May 1934, Minute Book 1 (1924–34), 3 December 1947, and 14 December 1949, Minute Book 3 (1946–50), 15 May 1957, Minute Book 5 (1956–60); and Minutes of the 43rd Annual General Meeting, 12 May 1976, Minute Book 9 (1973–76), IEE Archives.

Association did little to dispel this idea. In 1977, after a visit to the Fawley power station by the Gosport and Fareham branch, the *Electrical Age for Women* carried a report by one member who exclaimed that 'we realized the immense cost involved in generating electricity and were all determined not to grumble so much when our next electricity bill arrives!' At the end of 1978 the director sought permission from the Executive Committee to speak publicly in support of the industry's right to deny service to 'consumers who are able to pay but would not'. The committee voted that she could indeed, as the minutes had it, support 'the right to disconnect hard-line bad payers'.[88]

Despite such evidence, and the essential financial support of the industry, some electrical engineers expressed the belief that the EAW should 'be more under control of the Industry'. One who was of this opinion, in 1937, also complained that his wife had not been retained on the Executive Council, and others suggested that the branches should be under the direction of the head engineer of the local electrical authority. That the dynamics between the male, technically expert financial supporters and female consumer/clients constituted a long-standing problem, is shown by the fact that as late as 1956 the Central Electrical Authority 'asked at very short notice for information regarding EAW relationship with the Authority, and, in particular, how many Branch Officers were wives of Board officials'.[89]

At the highest level of the industry, however, there had always been the realization that, as the EDA's head said at the very beginning, 'the EAW should remain an entirely independent organisation'.[90] This became a mantra for the EAW, and as the years wore on the industry appeared more and more likely simply to cut off funding than to gather it more closely into the fold. As the EAW director told her executive committee in 1978,

> The [Electricity] Council wished to know whether the EAW was fulfilling a useful role. If we are seen to be forward-looking and businesslike, that would be viewed with approval... It is essential that we be imaginative in our outlook; we were making a bid to get continued support from the Electricity Supply Industry, and it was necessary to prove that we were a worthwhile organisation.[91]

By several important indicators, the EAW came out of the Second World War stronger than ever and firmly on course in its effort to educate women about electricity and the electrical industry about women. In 1949 there were 100 branches with a combined membership of 10,000 women. By 1960 the number of branches had more than doubled to 202 and five years later stood at 246. As late as 1971 there were 262 branches.[92] By other measures though, especially the average age of members, the Association was heading into difficult waters.

88 Mrs R. M. Mitchell, 'Visit to Fawley power station', *Meet the EAW Branches* (1977), in *Electrical Age for Women* (1977), **40**, 13–14 and EAW papers, Minutes of Executive Committee, 18 January 1978, Minute Book 10 (1977–80), IEE Archives.

89 EAW papers, Minutes of Executive Committee, 28 May 1937, 19 October 1938, Minute Book 1 (1934–40), and 30 May 1956, Minute Book 5 (1956–60), IEE Archives.

90 EAW papers, Minutes of Finance Committee, 12 July 1927, Minute Book 1 (1924–34), IEE Archives.

91 EAW papers, Minutes of National Executive Committee, 13 November 1978, IEE Archives.

92 EAW papers, Minutes of Executive Committee, 14 December 1949, 20 July 1949, Minute Book 3 (1946–50), 20 July 1960, Minute Book 5 (1956–60), 16 June 1965, Minute Book 6 (1961–65), and 20 January 1971, Minute Book 8 (1970–72), IEE Archives.

In 1958 the director urged all branches to make an extra effort to reach out to young people, a group characterized by 'younger marriages, higher standards of living, and the increased employment of married women'. Three years later a discussion of the same issue by the advisory council revealed that 'evening meetings were necessary for the younger women who were either out at work during the day or who had young families'. It was even suggested that older members 'might take turns in looking after the children of younger members'.[93] New branches tended to opt for evening meetings, but the older members apparently preferred their afternoon meetings and sometimes set up parallel evening branches that better met 'the needs of teachers and other professional and business women'. In 1963 the Liverpool branch was suspended because of a lack of attendance and the possibility was being explored of starting new branches in the suburbs to which 'the population was tending to move'.[94]

KEEPING UP WITH MODERNITY

The search for relevance, or at least survival, in changing times went to great lengths in the late 1960s. At a single session of the executive committee it was reported that besides a 'Young Wives' group recently formed, and lunch-time meetings for 'under twenty-fives', the EAW had organized a 'Home Electricity Course' for women prisoners at HM prison at Styal, a course in 'practical electrical housecraft' for a group of patients at Warlingham Park Hospital who were 'recovering from mental illness', and a series of talks and demonstrations on 'Cookery Know-How' for 'men only'.[95] 'Young Electrics' was the name chosen for the new branches for 'younger' women; but a generation later, the photographs in the Association's journal of beehive hairstyled, miniskirted and go-go-booted young women raptly gazing in the window of the headquarters, just a few steps from Carnaby Street, would seem unconvincing.[96]

Evening branches, which had at first seemed like a panacea, had problems of their own. That in Leeds was shut down in 1973 'because of the increased crime wave which made members afraid to venture into the centre of the town at night'. In addition, it was said that 'many young people who were working did not want to turn out again at night once they had gone home', nor, it was added, 'were husbands particularly keen on their going out either'. And finally, it was believed, 'perhaps the greatest counter-attraction to recruitment and to branch formation was the development, from the 1960s onwards, of television'.[97]

The failure, ultimately, to attract and retain young members was paralleled by a continuing loss of older members and branches. By the mid-1970s the Association was

93 EAW papers, Minutes of Advisory Council, 12 November 1958, Minute Book 5 (1956–60), and 15 November 1961, Minute Book 6 (1961–65), IEE Archives.

94 EAW papers, Minutes of Advisory Council, 15 May 1962, and Minutes of Executive Committee, 19 November 1963, Minute Book 6 (1961–65), IEE Archives.

95 EAW papers, Minutes of Executive Committee, 18 October 1967, Minute Book 7 (1966–69), IEE Archives.

96 EAW papers, Minutes of Executive Committee, 20 January 1971, Minute Book 8 (1970–72), IEE Archives. For such an illustration, see the cover of *Electrical Age for Women* (1968), 1.

97 EAW papers, Minutes of Executive Committee, 17 January 1973, and Minutes of Council, 19 November 1974, Minute Book 9 (1973–76), IEE Archives; and 'A chapter ends', *Electric Living Journal* (Winter, 1983), 5.

struggling with the fact that 'many branches had ageing memberships', though it took some comfort from the knowledge that 'the problem of decreasing membership was not unique to the EAW'. Indeed, in 1976 it was sadly noted that only eight Founder Members were left, including Rosalind Messenger, sister of the original director Caroline Haslett.[98]

Membership was only one of the Association's problems. In 1977 it suspended its educational programme: demonstrators had been replaced by salespeople; the electricity boards had their own training programmes for staff and no longer recognized the EAW diploma; science, rather than 'domestic' science, teachers now covered electricity in the schools; and schools became generally more resistant to using EAW materials. Nor was the once-popular kitchen facility at headquarters immune from the changing times. When it was suggested that the fact that the front door of the headquarters at 25 Foubert's Place was kept shut might account for a falling off of visitors, the director denied it. It was more likely that the low number of visitors was due, she guessed, to high public transport fares, which kept suburban women at home, and to 'an overwhelming increase in foreign tourists' drawn to the area, presumably, by the modish drama of nearby Carnaby Street. 'In any case', she added, 'the door was closed on the advice of the police for security reasons in the high-risk area where the Headquarters offices are situated'.[99]

The world, of course, had changed radically since the founding of the EAW in 1924. Then, a growing number of mainly middle-class women (not a few of them fresh from the new technical pursuits of the First World War) put on their coats and hats, and attended Association-sponsored afternoon lectures on electricity, demonstrations of the latest appliances, or took excursions to factories and power-plants.[100] Not only did these offer a chance to get out of the house for serious and commendable motives, but they put women in touch with masculine subjects and often on masculine terrain. In the course of all this, some of the women learned to organize and to speak in public, and as Messenger said, 'women in those days had no idea how to do such things'.[101] But, most importantly, the chance to keep abreast with developments in electrical supply and application allowed a generation of women to envisage a more comfortable, more *modern*, way of living, and allowed them to be the means of modernizing British domestic life.

But by the 1950s, as the appliance revolution had taken hold in the country, the participation of women in public life had advanced a generation beyond the experience of the founders, popular culture had moved beyond the voluntarism, self-help and benevolence of the inter-war women's organizations, and electricity itself had changed from being a symbol of modernity to a necessity for decent domesticity. Indeed in 1967 the EAW noted the apparent 'contradiction that in the midst of increasing automation a certain "folksiness"' had arisen, from heavy pottery in earth tones to 'the "all-wood"

98 EAW papers, Minutes of Executive Committee, 19 June 1974 and 12 May 1976, Minute Book 9 (1973–76), IEE Archives.

99 EAW papers, Minutes of Executive Committee, 16 February 1977, Minute Book 10 (1977–80), IEE Archives; 'A chapter ends', op. cit. (97), 4; Minutes of Executive Committee, 15 November 1976, Minute Book 9 (1973–76).

100 On the serious purposes characteristic of women's organizations of the period, see Beddoe, op. cit. (2), 120–1.

101 'A chapter ends', op. cit. (97), 4. At one point the EAW ran a 'Speakers' Course', the object of which was 'to train those who have to speak in public, especially in addressing women's organisations'. Randell, op. cit. (10), 56.

look in the kitchen'.[102] Women who might once have joined the Association voted with their feet, and by the 1980s, the electrical industry, well aware of the changing times, prepared to vote by withholding its money.

Well aware of its increasingly precarious existence, the EAW cast about for some effective reform. In 1979 the National Executive Committee briefly considered the idea of turning itself into a 'consumer representative body', but the idea of moving from their presumed ideal ground between consumers and producers to a position of consumer advocacy proved unattractive.[103] Since the Electric Supply Industry was providing 88 per cent of the EAW funds, it was critical to define reform in terms the industry would accept. A 1983 proposal to set up an Electric Living Foundation as a separate trust, free from the perceived limitations of the EAW's governing charter, was rejected by the industry, and though the foundation was finally established, it became a 'special unit' of the Association rather than an independent trust. In 1985 the EAW again asked the industry for permission to change its structure, and this time the denial was accompanied by a threat to withdraw all support unless at the end of two years the EAW had significantly increased its membership, especially among younger women. Deciding that there was 'no realistic possibility whatever of satisfying the ESI's requirements', the National Executive Committee decided that 'our Association should be dissolved with dignity'.[104] An 'Extraordinary General Meeting', held on 6 March 1986, voted overwhelmingly to instruct the National Executive Committee to make the necessary arrangements, and at another extraordinary meeting, held with the 53rd and last Annual General Meeting, on 12 December, the vote to dissolve was finally made and a liquidator appointed.[105]

The press reaction to the demise of this 62-year old women's organization was instructive. The *Guardian* noted that 'its headquarters in the West End of London, a few yards off Carnaby Street, have survived until now as an anachronistic oasis surrounded by the tacky clothing shops and high-tech showrooms. There is very little high-tech', it pointed out, 'at the EAW, which has a giant model of an electric plug for teaching women how to connect appliances to the electric supply'. The *Mail on Sunday* was less kind. Under the headline 'An Electrical Cut-off', it smirked that 'in Soho, London, sometimes hilariously mistaken for a sex-aid shop, lives the Electrical Association for Women'. Noting that the EAW's membership had fallen from a high of 14,000 to 4000, the *Daily Mail* stated flatly that 'today's housewives do not need it'.[106]

The alpha and omega of the EAW's problems were nicely set out by the journal *New Society* and by the *Electrical Review*. The former claimed that the Association had been born out of 'the swirling mass of energy created by female emancipation and the new uses of electricity in the home', but noted that it is 'to modern eyes a strange mixture of

102 'Automation with rustication', *Electrical Age for Women* (1967), **36**, 1109.

103 EAW papers, Minutes of National Executive Committee, 4 April 1979, IEE Archives.

104 EAW papers, letter from Ann G. McMullan, Director and Secretary, to Members, 6 December 1985, Closure File. See also 'The Electric Living Foundation', *Electric Living Journal* (Spring, 1985), 3, and 'Focus: 2000. The new strategy – and what it is all about', ibid. (Winter, 1984), 11.

105 EAW papers, EAW press release, 7 March 1986, and Minutes of an Extraordinary General Meeting, 12 December 1986, Closure File, IEE Archives.

106 *Guardian*, 17 March 1986; *Mail on Sunday*, 20 July 1986; and *Daily Mail*, 8 April 1986. Clippings in the EAW papers, Closure File, IEE Archives.

gentlewomanly concern for safety and efficiency and a more campaigning attitude to equal opportunities for women'. The latter, a journal put out by the IEE, jauntily titled its notice 'Cooked Electric', and admitted that 'for a long time the electric supply industry has wanted to cease its support' of the group, and 'has at last found the courage to do so'. The reason appears to have been that 'today electricity is taken for granted'. Looking back over the years it noted with regret that 'in some of the broader aspects of the EAW's work, particularly the nuclear debate... the supply industry could have used the Association to greater effect. If this had happened, it is likely that the closure could have been avoided.'[107]

Both journals got it right. The EAW director Ann McMullan, in 1980 complained that 'the proportion of women in the electrical industry remains disappointingly low': women accounted for only 1.5 per cent of the managers in the industry and, perhaps even more surprisingly, only 5.1 per cent of manual workers in the metal and electrical trades.[108] In fact, as a comfortably middle-class group the EAW had never turned its attention to the place of women on the assembly line, preferring to think of women in the industry in genteel terms of the technically trained and primarily helpful positions of the teacher, demonstrator and engineer.[109] But even as consumers women were marginalized: the industry seems never to have overcome its notion that engineers and manufacturers, not housewives or other women consumers, were the experts on electrical appliances. At the same time the many social needs of members that had been met by the Association in its early years, from sociability and entertainment to self-esteem, had been profoundly altered by changing institutions and life-styles. Founding their Association on the rock of modernity, members of the EAW discovered the profound truth that everything modern is eventually supplanted by something even more modern. Alison Light, looking at women's literature between the wars, has been tempted to consider the whole notion of an 'inter-war' era as a more masculine periodization. The period 1914–56, she suggests, encompases a 'narrative of conservatism constantly revising itself' and that if 'the 1960s were the truly modernising moment in Britain, the modernisation may now be drawing to its close'.[110] Her block of time works well for the EAW, reaching as it does from the engineering work of the founders during the First World War to the crime, foreigners and young women of Carnaby Street. Early in the century Ellen Wilkinson had believed that the vote and electricity were 'the twin keys to women's earthly paradise'.[111] By 1986, British women had both.

107 *New Society* (July 1986), 5, and *Electrical Review* (4 April 1986), **218**, 11.

108 Ann McMullan, 'Women in electricity are seen as a "last resort"', *Electric Living* (Summer, 1980), 4.

109 For the others, see Miriam Glucksmann, *Women Assemble: Women Workers and the New Industries in Inter-war Britain*, London, 1990.

110 Light, op. cit. (4), 19.

111 *Electrical Age for Women* (1934), **2**, 653.